

### ABSTRACT

A method of manufacturing a magnetoresistance effect element includes forming an insulating layer on a first ferromagnetic layer, forming an aperture reaching the first ferromagnetic layer by thrusting a needle from the top surface of the insulating layer, and depositing a ferromagnetic material to form a second ferromagnetic layer overlying the insulating layer which buries the aperture. The aperture can have an opening width not larger than 20 nm. A current flowing between the first ferromagnetic layer and the needle can be monitored, and thrusting of the needle can be interrupted when the current reaches a predetermined value.